



D4 Low Price or High Performance?

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The goal of this presentation is to increase awareness of the role of economics regarding choices made in materials, designs, or workmanship of everyday devices that humans interact with and depend upon for satisfactory performance and personal safety.

This presentation will impact the forensic science community by discussing how human injury or death is always a tragedy, but these tragedies are exacerbated when their cause can ultimately be attributed to intentional choices made between low cost or high performance in materials, designs, or workmanship of the everyday devices relied upon to provide service. This presentation provides an overview of a session devoted to this topic and sets the basis for the concluding panel discussion.

Reliable performance of safety helmets, air bags, automotive seats, and seat buckles, as well as vehicle body designs, etc. are taken for granted by virtually all consumers. Yet reports often reveal that the risk of injury or death from these and other everyday devices of modern society is more than would ordinarily be expected. Although risk is a necessary accompaniment of a modern technological society, elevated risk arising from economic choices made in the materials, design, or workmanship of these devices merits the attention of consumers, regulators, and legislators.

This session features a compendium of presentations by experts who have spent a considerable portion of their professional careers investigating human injury or deaths that have occurred in conjunction with devices posing elevated risks to society from economic-driven compromises to football helmets, automobile seat backs, buckles, and fuel tanks as well as body and chassis design.

Information presented in this session is useful for forensic investigators as it will highlight design or material shortcomings in such devices and direct the attention of the investigator to these weaknesses, thereby promoting efficient, thorough determination of mishap etiology.

This session is important for attendees with regulatory or legislative responsibilities because lacking government regulation, organizations often choose a path which minimizes expenses to maximize profits at the cost of human safety. Decisions attending design of the Ford® Pinto® or General Motors® (GM) ignition lock provide noteworthy examples. Furthermore, information presented during this session will provide a basis for all attendees to improve their ability to understand mishap etiology.

This session will conclude with a panel discussion that attempts to raise societal awareness of the decisions governing material selection, device design, or manufacturing processes that compromise the performance of everyday items upon which society depends and takes for granted. This panel discussion may also result in technology-based suggestions for reducing such risks. Elected representatives in attendance may use the information provided as a point of departure for introducing new legislation designed to enhance societal safety and protect the public from economic-based compromises to devices upon which humans depend for safe performance.

Material Compromise, Design Flaw, Economics